

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections and further examination are requested. Upon entry of this amendment, the specification is amended, claims 1-5 are amended, and claims 6-18 are cancelled, leaving claims 1-5 pending with claims 1 and 5 being independent. No new matter has been added.

Specification

The specification has been carefully reviewed and revised to correct grammatical and idiomatic errors in order to aid the Examiner in further consideration of the application. No new matter has been added.

Rejections Under 35 U.S.C. §112, second paragraph

Claim 5 has been rejected under 35 U.S.C. §112 second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner states that there is insufficient antecedent basis for the term "first chip component included in said first chip components."

Claim 5 has been amended to overcome this rejection.

Rejections Under 35 U.S.C. §102(b)

Claim 1 has been rejected under 35 U.S.C. §102(b) as being anticipated by NEC IC Microcomputer System Ltd. (JP 60-176569).

Applicants submit that the claims as now pending overcome the cited prior art. In particular, amended independent claim 1 recites a circuit board including chip components mounted thereon, the circuit board comprising a first chip component and a second chip component having substantially the same height on a substrate, and a third chip component bonded at a first electrode to an electrode of the first chip component and bonded at a second electrode to an electrode of the second chip component such that the third chip component is arranged orthogonally to the first chip component and the second chip component.

Applicants submit that the cited prior art fails to disclose or render obvious such a circuit

board. Specifically, as shown in Fig. 8 of the NEC reference, although a chip component 51' is stacked on two chip components 51, the chip component 51' and the two chip components 51 are arranged in parallel.

On the other hand, the arrangement in claim 1 of the present invention is such that the third chip component is arranged orthogonal to the first chip component and the second chip component (hereinafter referred to as “orthogonal arrangement”). Therefore, Applicants submit that the NEC reference fails to disclose each of the elements of claim 1.

Additionally, Applicants submit that the NEC reference fails to render obvious claim 1. Specifically, due to the orthogonal arrangement, the third chip component and the first and second chip components are tri-dimensionally mounted and are physically stable. Further, the orthogonal arrangement, as recited in claim 1, allows for more circuit patterns than the parallel arrangement, since, in the orthogonal arrangement, the third chip component extends over two lines in the circuit. Also, it is more difficult to produce the circuit with an orthogonal arrangement than with a parallel arrangement because, in the orthogonal arrangement, one must pay attention to the distance between two lines, i.e., the first and second chip components and deviations at connecting portions between the third chip component and the first and second chip components when the third chip component is mounted over the first and second chip components. On the other hand, in the parallel arrangement, one needs to merely pay attention to a deviation in one direction.

Therefore, Applicants submit that one of ordinary skill in the art would not have modified the NEC reference to render obvious the orthogonal arrangement of the present invention. Thus, Applicants submit that independent claim 1 and its dependent claims are allowable over the cited prior art.

Rejections Under 35 U.S.C. §103(a)

Claim 2 has been rejected under 35 U.S.C. §103(a) as being unpatentable over NEC IC Microcomputer System Ltd.

Applicants submit that since claim 2 is dependent from claim 1, claim 2 is allowable for the reasons set forth above.

Claims 3-5 have been rejected under 35 U.S.C. §103(a) as being unpatentable over NEC IC Microcomputer System Ltd. in view of Toyosawa (U.S. 2001/0054751).

Applicants submit that since claims 3 and 4 are dependent from claim 1 and since Toyosawa does not overcome the deficiencies of the NEC reference, claims 3 and 4 are allowable over the cited prior art.

With respect to claim 5, Applicants submit that claim 5 is allowable for similar reasons to those set forth above. Namely, claim 5 recites a circuit board including chip components mounted thereon, the circuit board comprising a first chip component included in first chip components that is a component of a different type from a second chip component, and the second chip component is bonded to an electrode of the first chip component such that the second chip component is arranged orthogonally to the first chip component. The cited prior art fails to disclose or render obvious such an arrangement.

Conclusion

In view of the foregoing amendments and remarks, all of the claims now pending in this application are believed to be in condition for allowance. Reconsideration and favorable action are respectfully solicited.

Should the Examiner believe there are any remaining issues that must be resolved before this application can be allowed, it is respectfully requested that the Examiner contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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